

# AMROBA®inc

ADVOCATE OF THE AVIATION MRO INDUSTRY

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## Australian Aviation Skill Training Future Needs Radical Change

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Over the last decade or two many bad comments have been thrown at CASA as employers have become more frustrated with a perceived lack of skills as a result of the Australian Qualification Framework and competency based training.

- CASA promulgates the kinds of AME licences.
- Manufacturing Skills Australia—Industry Skill Council, develops competency units to bring about national training standards.
- RTOs convert the training packages to meet local needs restricted by government funding.

The real issue is that training has been manipulated to fit into a federal government funding model that is administered by State Departments not harmonised with aviation global standards.

Basically, the current government policy limits the funding to 1280 hours per student undertaking 'trade' training. The AME licence training is added to trade training and specific aircraft/component training must be added to those costs.

However, what we have now been told, this does not mean that the student gets 1280 classroom hours of training as competency assessment is included in 1280 hours. Assessment, as put to us, could account for 280 to 380 hours.

This means that an Australian AME will obtain less than half of the classroom hours that our Asian neighbours, European or North American apply to mandatory training their AMEs for the purpose of an ICAO Annex 1 licence.

Government must take responsibility for this slide from global aviation training standards.

Australia's aircraft maintenance training is obliged to meet treaty standards.

Under the Convention, Article 37 places an obligation on Australia to adopt international standards produced by ICAO. Annex 1 to the Convention, list the training standards to be adopted.

To assist countries, ICAO produces Guidance Manuals that specifies the minimum standards to be adopted.

ICAO Doc 7192 AN/857, *Training Manual*, Part D-1 applies to Aircraft Maintenance. This promulgates the international LAME training standards.

This manual includes the training principles and subject matters to meet the requirements of Annex 1, Chapter 4, AME licensing.

So why doesn't the government fund training to meet its obligation under Article 37 and adopt these international training standards?

The ICAO Training Manual sets out 'Training Specifications' with recommended duration and level of capability for knowledge, skill and experience training. Knowledge and skill relates to class room hours and experience relates to applied practical maintenance operations post obtaining knowledge and skill competencies.

The manual states it is important for the trainees to develop a high degree of confidence, competence, initiative, team spirit and self-reliance so that they can perform well under varying and sometimes trying circumstances.

The training manual also specifies training times:

Knowledge training general: 545 hours

- Airframes: 800 hours
- Engine & Propellers: 750 hours
- Electrical & Instruments: 1350 hours
- AFCS/Nav/Radio: 785 hours
- Human Factors: 30 hours

Skill Training Airframe: 1825 hours

- Engines: 1000 hours
- Avionics: 3075 hours

Experience is another 2 years.

Government funding does not meet needs.

It is becoming obvious that the current training system needs to be totally revamped to provide higher skilled outcomes for the aviation MRO industry, possibly based on the Australian Maritime College in Tasmania.

**May 2nd, 2013. The Australian Maritime College and the University of Tasmania today welcomed Prime Minister Julia Gillard's announcement of almost \$12 million in additional funding for specialised maritime training.**

**This significant funding boost will allow AMC to train more seafarers than ever before, for careers aboard Australian and internationally flagged ships.**

Maybe it is time Australia had world class Australian Aviation Colleges linked to a University funded by the Australian Government in much the same way as they fund the AMC, the Institute for Maritime Education, Training and Research.

## Manufacturing Skills Australia Update

At the last meeting, 30/4/2013, MSA produced a report that goes some way to meet the needs of this MRO industry in the future.

MSA presented competency units to meet the training needs for engine overhauls. This competency standard has been done with members inputs—another workshop training specification.

Two new competency standards for Diploma and Advanced Diploma of Aeronautical Engineering. These competencies will support Subpart M that requires a person to design modifications and repairs. Though we support the mechatronic competencies, CASA still has not approved the pathway. There is additional competencies to cover the work of persons working in a CAMO.

When industry wanted more links to academic qualifications to underpin the AME licence and the removal of duplicate testing, a major change program began to provide AQF qualifications to the LAME and other specialist maintainers.

Eventual aim is that everyone working in this industry will hold appropriate AQF qualifications. We are at that stage where MSA is and will review current training competencies and create new training competencies to fill the void that has been there for many years.

MSA has produced an Aeroskills Guide: [MSA link: Qualifications available:](#)

There are 21 qualifications ranging from Certificate II to Advanced Diploma:

- Certificate II in Aeroskills
- Certificate II in Aircraft Line Maintenance
- Certificate II in Aircraft Surface Finishing

- Certificate III in Aircraft Surface Finishing
- Certificate III in Aeroskills (Mechatronics)
- Certificate III in Aircraft Life Support and Furnishing
- Certificate IV in Aeroskills (Avionics)
- Certificate IV in Aeroskills (Mechanical)
- Certificate IV in Aeroskills (Structures)
- Certificate IV in Aeroskills (Mechatronics)
- Certificate IV in Aeroskills (Armament)
- Certificate IV in Aircraft Surface Finishing
- Certificate IV in Aircraft Life Support and furnishing
- Diploma of Aeroskills (Avionics)
- Diploma of Aeroskills (Mechanical)
- Diploma of Aeroskills (Non-Destructive Testing)
- Diploma of Aviation Maintenance Management (Avionics)
- Diploma of Aviation Maintenance Management (Mechanical)
- Advanced Diploma of Aviation Maintenance Management (Avionics)
- Advanced Diploma of Aviation Maintenance Management (Mechanical)
- Advanced Diploma of Aviation Non-Destructive Testing

This a big difference than what was available 2 decades back. Add the new academic pathways and many positions in aviation MRO now have qualifications.

MSA has signed an agreement for mutual recognition of Australian and New Zealand aviation qualifications – this was the subject of a letter of intent signed by MSA recently. The other signatories were New Zealand's Aviation Tourism and Travel Training Organisation (ATTTO) and Australia's Transport and Logistics Industry Skills Council (TLISC).

This will help harmonise training qualifications between the two countries.

## CASA SCC Meeting 1/5/2013

The last SCC meeting had the normal progress reports on regulatory development.

CASA clearly stated that they had made no determinations on the non airline sectors as they had not yet fully reviewed comments received from the NPRMs. They did state that there were not a lot of comments—you would not expect a lot when industry associations submit one set of comments on behalf of their members.

The lack of comments does not mean industry support, in fact, from our discussion with many non members, it should mean lack of support.

AMROBA discussed with CASA the LAME currency requirements of Annex 1. From our perspective, ICAO currency requirements should only apply to the ICAO LAME privileges. i.e. signing the release to service (CASR/CAR) and stage/final inspections (CAR).

AMROBA also raised the question why all regulations have the maximum penalty points applied when it was the prerogative of the Government instructing Department or Agency as to the level of penalty to be applied. From zero to 50.

CASA's Grant Mazowita, after internal CASA discussions during a break, agreed to review the penalty points and apply variable penalty points depending on the safety merit of the regulation.

CEO McCormick stated that the Authority still had a way to go with their internal training but it is starting to have an effect and he is confident of "turning the ship around" . We wish him success.

Maybe he has had some effect on his staff post the Acacia Ridge meeting as some members have been giving us feedback that a more professional and acceptable approach by CASA field staff has been noticed.

## Fire Protection/Aircon Licences

Many members are asking what is the latest requirements regarding maintenance of fire protection extinguishers and air conditioning systems.

Apparently, the AG's Department failed CASA completely during the development of CASR Part 66. Part of the sign-off in AGs is a review to see what other Acts and Regulations they affect.

Because government has not made a whole-of-government approach to regulatory development anymore, and individual departments and agencies do not collaborate to the detriment of Australian citizens, we get increasing red tape.

The *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995*, state:

(c) *the person:*

(i) *holds an aircraft maintenance engineer licence under regulation 31 of the Civil Aviation Regulations 1988; and*

(ii) *has achieved the unit of competency PRMPFES43A Prevent ozone depleting substance and synthetic greenhouse gas emissions.*

As can be seen, CAR31 has been repealed and these regulations have not been amended. This is a failure of AGD not CASA.

AMROBA has requested the appropriate department to make changes to the Ozone regulations to recognise the Part 66 licence and to include the soon to be accepted Aeroskills competencies developed by MSA as an alternative to their own.

CASA's AWB 26-003 states: "Ensure you are 'qualified' to handle Fire Extinguishing equipment containing Halon before attempting any maintenance tasks."

The Ozone regulation states "*the fire protection equipment is or will be installed in an aircraft; and (b) the person handles the equipment for the purpose of installing or removing the equipment*"

Handles the equipment, not maintenance of ..

What we need from these other regulations is that the aviation industry has been training our maintenance personnel in fire protection systems and air conditioning system since the 1960s, including all the safety cautions associated with handling these systems.

Aviation traditionally uses hazardous materials in the maintenance of aircraft and components and the industry has a safe record in handling these materials. If employers are unaware of a safety precaution, we have conscious industrial associations that participate with employers in keeping this industry safe and environmentally responsible. What is learnt in one organisation is communicated to others.

Under the Ozone Regulations, persons handling a refrigerant for any work undertaken on air conditioning equipment on aircraft are required to hold an Aviation Transitional Licence. These licences are issued by the Australian Refrigeration Council who administers refrigerant handling licences and refrigerant trading authorisations on behalf of the department. Further information on this licence scheme can be found on the Council's website: [www.arctick.org](http://www.arctick.org)

What is needed is a review of the Ozone legislation to make exemptions for the aviation MRO industry so that all the training in handling the hazardous materials used in the maintenance of aircraft and/or components is kept within the aviation training responsibility.

The government's Industry Skill Council should be responsible for amending the training specifications to include any requirement from not only *Ozone Protection and Synthetic Greenhouse Gas Management Regulations* but any other legislation affecting how maintenance is carried out.

In the interest of safety, this industry cannot afford to be responsible to multiple Regulators when it can be contained within CASRs.

## Environmental Licences Late Post

If you maintaining an aircraft's air conditioning system, then you are required under the Ozone legislation to hold a licence separate from CASA's Part 66 licences.

If you apply to the Australian Refrigeration Council you will find that the "licence" will cost \$130:00 and has to be renewed every two years.

You may need a "handler" and/or "recoverer" licences from the ARC: [Handler](#) or [Recoverer](#)

Click [here](#) for the ARC website

We are working on gaining and exemption.

There are a number of types of licences that exist for people working on gaseous fire suppression systems and portable fire extinguishers but LAME/AME are exempted. They are:

1. Portable Fire Extinguisher Maintenance
2. Fixed System Installation and Decommissioning
3. Fixed System Testing and Maintenance
4. Recovery, Reclamation, Fill and Recycling
5. Warehouse Maintenance
6. Control Systems Installation, Commissioning and Decommissioning.

FTA Exemption circulated separately.

\* Become a Member \*

The adage "there is strength in numbers" is absolutely true when it comes to influencing government regulations and policy. No one company, no matter how big or successful, can keep up on all the regulatory issues directly impacting businesses.

AMROBA is dedicated to serving the businesses that are responsible for the in-service continuing airworthiness of aircraft and aeronautical products, including the manufacture of replacement parts for in-service aircraft. This segment of the industry has never had a dedicated advocate until now.

AMROBA membership form is available from the AMROBA website: <http://amroba.org.au/become-a-member/>  
print the membership form [http://amroba.org.au/index.php/download\\_file/view/15/](http://amroba.org.au/index.php/download_file/view/15/)

# Bowtie Safety Model

Here's how it works – you place an undesired event in the centre of the model, and you analyse the impact of that event. You look at the potential threats that could cause that event to occur, and then put in place controls that will help you prevent that event from occurring.

You are effectively building a scenario in which that event might occur and applying preventive controls to mitigate the risk of it actually happening. Similarly, you also want to look at the potential consequences if the undesired event does occur. Once you've identified those consequences, you would then build out recovery controls to minimize the impact of the event. This is so that, if the undesired event does occur, you can properly mitigate the risk of that event causing the consequence.



In most small businesses of the aircraft engineering world, you hear that "stress" is normal, anticipated, and in fact, desirable in the maintenance and operation of aircraft. But the level is too high when "stress" progresses into "strain", a point at which business structures exceed their limits and begin to fail. This has interesting parallels with our aviation management structures. There is always a certain amount of discontent from customers and employees, and people routinely make mistakes, so I suppose a manager should begin to worry if there is a total absence of any complaints or reported errors and incidents. The trick is to identify when stress becomes strain (that is, our limits have been exceeded), and to know how to get things under control (particularly while continuing to operate). A good SMS gives management skilful ways to measure the level of stress and sound tools to deal with it. All companies operate under a degree of stress, (tolerable) some will feel a bit of strain at times (tolerable with mitigation), but if the strain increases across an organisation to the point that it fails (unacceptable) then yes, in an aviation context, uncontained (un-constrained ?) stress could well lead to a safety degradation.



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## The Aircraft Maintenance Engineers/Technician Creed

### Worth Remembering

*"UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a qualified aircraft maintenance engineer/technician. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.*

*IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge nor shall I allow any non qualified superior to persuade me to approve aircraft or equipment as airworthy against my better judgment, nor shall I permit my judgment to be influenced by money or other personal gain, nor shall I pass as airworthy aircraft or equipment about which I am in doubt either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.*

*I REALIZE the grave responsibility which is mine as a qualified aircraft maintenance engineer/technician, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation."*